

Mumbai University

Question Paper

**[IDOL – REVISED COURSE]
(APRIL – 2013)**

PAPER - I

**INTERNET
TECHNOLOGIES**

Time: 3 Hours**Total Marks:** 100**N.B.:** (1) All Question are Compulsory.

(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.

(3) Answer To The Same Question Must Be Written Together.

(4) Number To The Right Indicates Marks.

(5) Draw Neat Labeled Diagrams Wherever Necessary.

(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Show the unabbreviated colon hex notation for the following IPv6 addresses: (5)
- (i) An address with 64 0s followed by 64 1s.
 - (ii) An address with 128 0s.
 - (iii) An address with 128 1s.
 - (iv) An address with 128 alternatives 1s and 0s.
 - (v) An address with the alternative 1s and 0s.
- (B) Explain the sum use of time exceeded message of ICMP. (5)
- (C) Find the netid of the following IP address: (5)
- (i) 114.34.2.8 (ii) 132.56.8.6 (iii) 208.34.54.12
 - (iv) 251.34.98.5 (v) 129.14.6.8
- (D) Describe 3 phases of communication between Remote Host & Mobiles Host. (5)

Q.2 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Describe the functions of the Transport Layer in the OSI Model. (5)
- (B) Explain the different kinds of classes along with their Network Mask for IPv4 addresses. (5)
- (C) List the components of IP Package? Explain any one. (5)
- (D) Explain the Transition Strategies from IPv4 to IPv6. (5)
- (E) Explain the Transition Strategies from IPv4 addresses: (5)
- (i) 127.045.112.27
 - (ii) 12.24.35.7.8
 - (iii) 10110011.23.45.234
 - (iv) 76.27.256.23
 - (v) A23.56.78.5
- (F) Differentiate between IPv4 AND IPV6. (5)

Q.3 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Explain the Source Quench Message and Time Exceeded Message in ICMPv4. (5)
- (B) What is the inefficiency in Mobile IP? Give solution for it? (5)
- (C) Explain the input module of ARP. (5)
- (D) What are the three phases that a mobile host should go through to communicate with the remote host? (5)
- (E) Explain the following terminologies related to OSPF Protocol: (5)
- (i) Area
 - (ii) Metric
 - (iii) Link State Database
- (F) Explain Path Vector Routing. (5)

[TURN OVER]

Q.4 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Explain Stop-and-wait Protocol and Go-Back-N Protocol in the Transport Layer. (5)
(B) Explain the timers used in Transmission Control Protocol. (5)
(C) Explain the features of Stream Control Transmission Protocol. (5)
(D) List the multiple byte options supported by TCP. Explain any one with proper example. (5)
(E) Explain the two-node loop problem of distance vector routing. Give the solution of it. (5)
(F) A TCP connection is in ESTABLISHED. (5)

The following events occur one after another:

- (i) A FIN Segment is received.
(ii) The applications sends a "close" message.

Q.5 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Explain the DHCP Client Transition diagram. (5)
(B) What are the types of records used in Domain Name System? (5)
(C) What is mean by resolution in DNS? Explain. (5)
(D) What are the types of TFTP Message? What is the purpose of each one? (5)
(E) Define and give example of the following: (5)
 - Fully Qualified Domain Name.
 - Partially Qualified Domain Name
(F) List any five file management commands of FTP and write their purpose. (5)

Q.6 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Write a note on POP3. (5)
(B) Explain the user agent component of Electronic Mail System. (5)
(C) What are the types of Web documents? (5)
(D) What is the concept of SMI in SNMP? (5)
(E) What are the different kinds of headers available in MIME? (5)
(F) Write a short note on cookies. (5)

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Write a TCP Server program to find the whether number sent by client is prime or not. (5)
(B) Write a TCP Server application to find reverse of the given string. (5)
(C) Differentiate between TCP and UDP. (5)
(D) Write a short note on Concurrent Connectionless Programming. (5)
(E) Write a UDP Server code to find whether given string is palindrome or not. (5)
(F) Write a UDP Server code to find factorial of a number. (5)
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